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# WATER SUPPLY SUMMARY AND OUTLOOK FOR OREGON



U.S. DEPT. OF AGRICULTURE  
WATER SUPPLY  
CURRENT SITUATION  
WATER RESOURCES

OCT. 22, 1976

U.S. DEPT. OF AGRICULTURE  
WATER SUPPLY  
CURRENT SITUATION  
WATER RESOURCES

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE  
Collaborating with  
OREGON DEPARTMENT OF WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation  
with Federal, State and private organizations listed inside the back cover of this report.

AS OF  
OCT. 1, 1976

## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

*COVER PHOTO: SURVEYOR ENROUTE TO THE MT. BALDY ARIZONA SNOW COURSE*  
SCS PHOTO AZ-5460

## PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 111, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

## PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



# **WATER SUPPLY SUMMARY AND OUTLOOK FOR OREGON**

and  
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

*Issued*

OCTOBER 8, 1976

*Issued by*

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ADMINISTRATOR  
SOIL CONSERVATION SERVICE  
WASHINGTON, D C

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*In Cooperation with*

OREGON  
DEPARTMENT  
OF  
WATER RESOURCES

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## STREAMFLOW SUMMARY

Much Above Average  
 Above Average  
 Near Average  
 Below Average  
 Much Below Average  
 Not Forecast

2

**STREAMFLOW SUMMARY FOR OREGON**  
Spring and Summer Period

# STREAMFLOW SUMMARY FOR OREGON

Spring and Summer Period

Spring and Summer Period



# WATER SUPPLY SUMMARY AND OUTLOOK FOR OREGON

October 1, 1976

As forecast last spring, Oregon experienced a summer with very good water supplies in most areas. There were a few shortages like the South Fork of the Crooked River, Hay Creek near Willowdale, Rock Creek in Gilliam County and Lake County. These shortages were not severe, however, and the much-above average August rains helped the irrigators in these areas.

Rainfall over the state in August was heavy compared to normal. Lakeview received around 4 inches compared to a normal of 0.5 inches, and Chemult, 2.75 inches compared to a normal of .67 inches. These were typical examples of rain fall amounts in Oregon. These rains helped the summer streamflow and lowered water use rates. There was crop damage however, as harvesting was in progress and had to be delayed. Range conditions improved considerably due to the rain.

The mountain snow pack was very good over most of the mountain watersheds last winter. Where the snow pack was below average as in Lake and Klamath Counties, the August rains helped to alleviate any water shortages.

Current reservoir storage is above average but not quite as good as last year.

Representative streamflow for this past spring and summer expressed as a percent of average, versus the April 1 forecasts, is as follows:

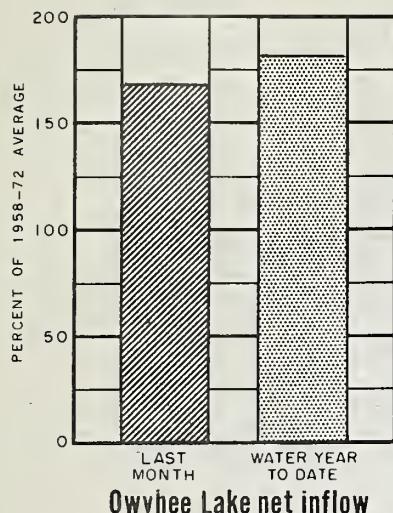
	<u>Period</u>	<u>Obs. Flow</u>	<u>April 1 Forecast</u>
Owyhee Net Inflow	April-July	152%	120%
Grande Ronde at La Grande	April-July	155%	135%
Willamette, Mid. Fk. blw. N. Fk.	April-July	110%	112%
Rogue at Raygold	April-July	106%	106%
Upper Klamath Lake	April-Sept.	93%	98%
Chewaucan near Paisley	April-July	79%	75%

An average snow pack this next winter should provide adequate supplies for most Oregon water users next year.

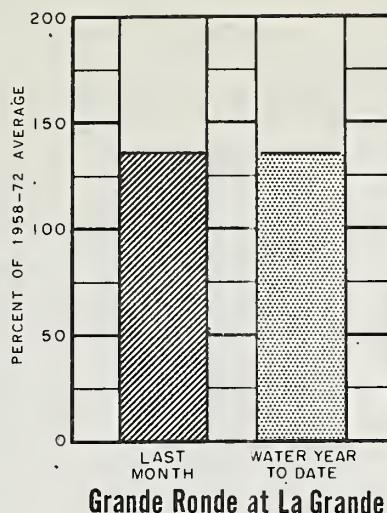


# CURRENT OREGON STREAMFLOW

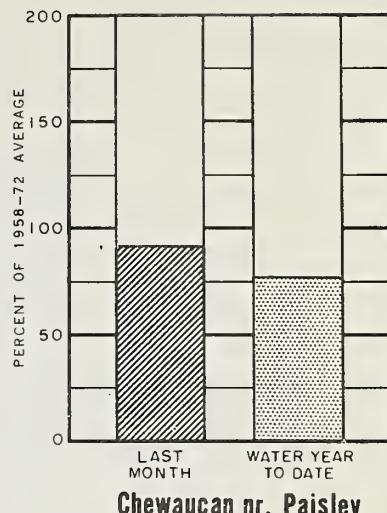
OCTOBER 1, 1976



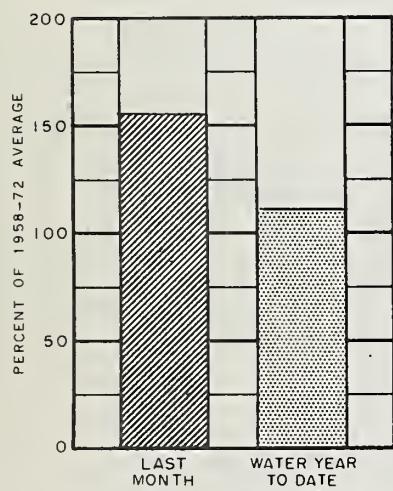
Owyhee Lake net inflow



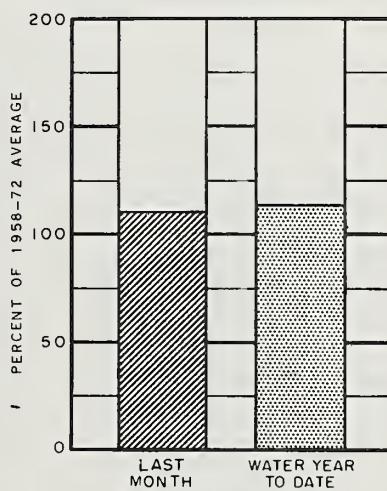
Grande Ronde at La Grande



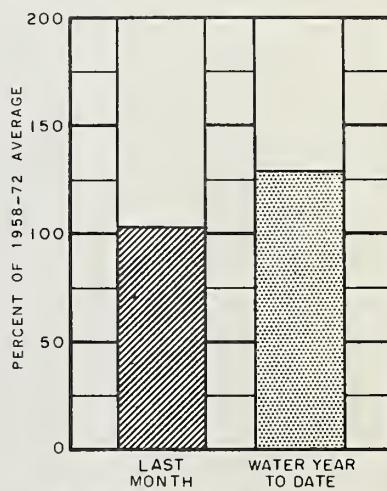
Chewaucan nr. Paisley



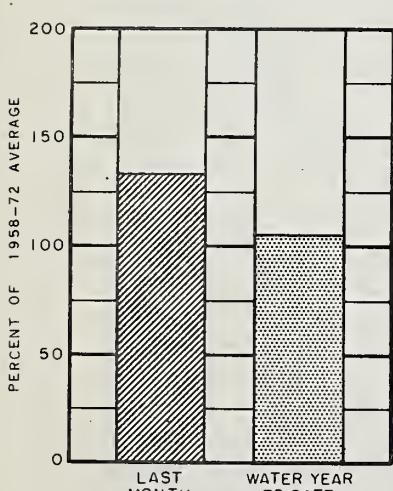
John Day at Service Creek



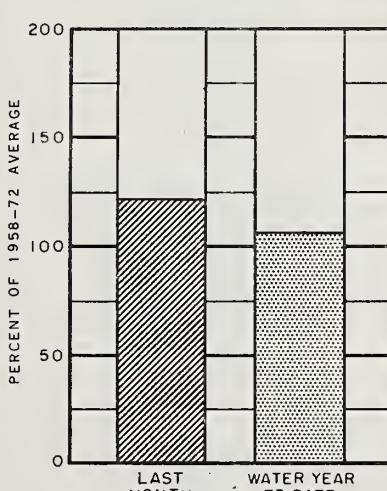
Deschutes at Moody



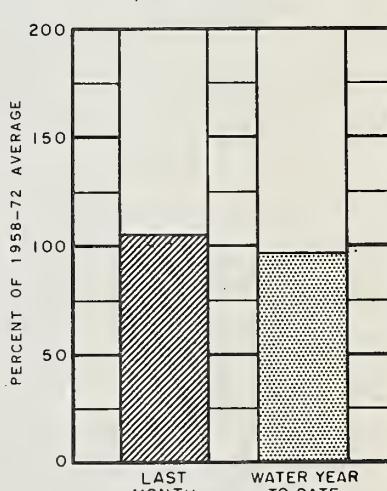
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow



STATUS OF RESERVOIR STORAGE, OCTOBER 1, 1976

RESERVOIR	USABLE CAPACITY (Thous. A.F.)	THOUSANDS ACRE FEET IN STORAGE ABOUT OCT. 1		
		1976	1975	15-Year Average 1958-72
<u>UPPER COLUMBIA DRAINAGE</u>				
Antelope	70.0	No Report	No Report	7.1
Owyhee	715.0	435.1	506.7	320.6
Beulah Reservoir	60.0	14.6	9.2	8.3
Bulky Creek	30.0	6.7	12.8	7.2
Warmsprings	191.0	66.2	116.9	50.7
Phillips Lake	73.5	44.7	50.9	--
Unity	25.2	7.3	5.4	2.2
Thief Valley	17.4	12.7	10.1	--
Wallowa Lake	37.5	24.1	28.4	14.0
<u>LOWER COLUMBIA DRAINAGE</u>				
Cold Springs	50.0	2.9	3.1	3.1
McKay	73.8	12.4	17.7	7.8
Ochoco	47.5	25.8	27.2	15.2
Prineville	153.0	106.1	105.2	100.3
Crane Prairie	55.3	26.9	31.8	19.9
Crescent Lake	86.9	59.2	64.3	33.6
Wickiup	200.0	108.0	117.8	42.3
Blue River	85.6	13.0	17.0	--
Cottage Grove	30.0	12.0	8.0	5.5
Cougar	155.2	93.3	85.1	86.2
Detroit	299.9	170.7	177.0	187.4
Dorena	70.5	28.8	25.6	11.9
Fall Creek	115.0	49.4	27.2	15.0
Fern Ridge	94.2	79.0	77.9	62.5
Foster	30.0	25.0	24.9	21.7
Green Peter	270.0	151.1	128.5	91.0
Hills Creek	200.0	113.4	99.8	110.7
Lookout Point	337.2	182.8	163.5	200.2
Timothy Lake	61.7	61.1	56.6	59.7
Henry Hagg Lake	53.0	31.5	38.6	--
<u>WEST COAST DRAINAGE</u>				
Fourmile Lake	16.1	9.8	13.8	6.0
Fish Lake	8.0	5.0	4.6	3.0
Howard Priarie	60.0	48.2	50.1	37.0
Hyatt Prairie	16.1	10.6	11.0	8.9
Emigrant Lake	39.0	11.5	9.4	8.8
Upper Klamath	584.0	370.9	384.4	315.9
Gerber	94.0	36.0	50.4	29.9
Clear Lake	440.2	214.3	289.2	165.5
Cottonwood	8.7	1.3	0.9	0.6
Drews	63.0	20.9	27.9	24.4



# SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average +
OWYHEE, MALHEUR WATERSHEDS							
Bear Creek (Nev.)	7800	72	16.8	No Report	13.4	10.7	0.4
Big Bend (Nev.)	6700	48	16.7	9/14	6.1	5.4	13.2
Blue Mountain Spring	5900	42	16.9	9/29	14.0	5.4	5.8
Mud Flat (Ida.)	5500	48	12.8	No Report	14.0	9.3	9.3
Rodeo Flat (Nev.)	6800	42	11.0	9/14	7.5	3.0	7.4
Taylor Canyon (Nev.)	6200	48	15.1	9/14	10.5	8.2	10.2
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS							
Blue Mountain Summit	5100	36	16.8	9/23	9.0	8.4	7.8
Dooley Mountain	5430	36	9.2	9/23	2.8	2.4	2.9
Emigrant Springs	3925	48	22.3	9/17	19.8	15.4	12.3
Ladd Summit	3730	48	18.9	9/23	11.2	9.1	8.9
Moss Springs	5850	36	25.8	9/23	12.5	13.4	12.2
Tollgate	5070	48	23.6	9/17	14.2	9.2	13.9
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	No Report	19.8	15.4	12.3
Emigrant Springs	3925	48	22.3	9/17	14.2	9.2	13.9
Tollgate	5070	48	23.6	9/17	14.2	9.2	13.9
UPPER JOHN DAY WATERSHEDS							
Battle Mountain Summit	4340	48	13.8	No Report	6.1	5.4	5.9
Blue Mountain Spring	5900	42	16.9	9/29	9.0	8.4	7.8
Blue Mountain Summit	5100	36	16.8	9/23	5.2	--	4.1
Derr	5670	24	9.0	9/27	9.1	9.4	9.0
Marks Creek	4540	36	14.1	10/1	14.0	10.8	10.1
Snow Mountain	6300	48	16.7	9/25	7.6	7.9	7.3
Starr Ridge	5150	36	10.6	9/29	5.2	--	4.1
UPPER DESCHUTES, CROOKED WATERSHEDS							
Derr	5670	24	9.0	9/27	9.1	9.4	9.0
Marks Creek	4540	36	14.1	10/1	14.0	10.8	10.1
Snow Mountain	6300	48	16.7	9/25	5.2	--	4.1
KLAMATH WATERSHEDS							
Quartz Mountain	5230	48	15.3	9/24	5.3	5.4	5.5
LAKE COUNTY, GOOSE LAKE WATERSHEDS							
Camas Creek	5720	42	14.5	No Report	9.1	8.8	8.8
Quartz Mountain	5230	48	15.3	9/24	5.3	5.4	5.5
HARNEY BASIN WATERSHEDS							
Blue Mountain Spring	5900	42	16.9	9/29	6.1	5.4	5.8
Silvies	6900	48	16.4	No Report	14.0	10.8	10.1
Snow Mountain	6300	48	16.7	9/25	7.6	7.9	7.3
Starr Ridge	5150	36	10.6	9/29	4.8	3.7	3.5
Willow-Bald	5000	24	6.6	9/25	5.2	--	4.1



# The Following Organizations Cooperate in the Oregon Snow Survey Work

## STATE

Idaho Cooperative Snow Surveys  
Nevada Cooperative Snow Surveys  
Oregon State University  
Oregon Department Of Water Resources  
Soil and Water Conservation Districts of Oregon

## COUNTY

Douglas County Water Resources Survey

## FEDERAL

Department of Agriculture  
Cooperative Extension Service  
Forest Service  
Soil Conservation Service  
Department of Commerce  
NOAA, National Weather Service  
Department of the Interior  
Bonneville Power Administration  
Bureau of Land Management  
Bureau of Reclamation  
Fish and Wildlife Service  
Geological Survey  
Department of National Defense  
Corps of Army Engineers

## PUBLIC UTILITIES

Pacific Power and Light Company  
Portland General Electric Company  
California-Pacific Utilities Company

## MUNICIPALITIES

City of Baker  
City of La Grande  
City of The Dalles  
City of Walla Walla

## IRRIGATION DISTRICTS

Arnold Irrigation District  
Associated Ditch Companies  
Burnt River Irrigation District  
Central Oregon Irrigation District  
East Fork Irrigation District  
Grants Pass Irrigation District  
Hood River Irrigation District  
Jordan Valley Irrigation District  
Juniper Flat Irrigation District  
Lakeview Water Users, Incorporated  
Medford Irrigation District  
Middle Fork Irrigation District  
North Board of Control - Owyhee Project  
North Unit Irrigation District  
Ochoco Irrigation District  
Rogue River Valley Irrigation District  
South Board of Control - Owyhee Project  
Squaw Creek Irrigation District  
Talent Irrigation District  
Tumalo Project  
Vale - Oregon Irrigation District  
Warmsprings Irrigation District

## PRIVATE ORGANIZATIONS

The Crag Rats, Hood River, Oregon

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SOIL CONSERVATION SERVICE  
1220 S.W. THIRD AVE.  
PORTLAND, OREGON 97204

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